DOCUMENT RESUME

ED 155 871 EC 110 772

TITLE A Handicapped Student Needs Assessment.
INSTITUTION Partners in Career Education, Arlington, Tex.; Texas Education Agency, Austin.
PUB DATE 77
NOTE 35p.; Print may be poor and not reproduce well in hard copy due to colored paper and color of type in the original

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Aurally Handicapped; *Career Education; Educable Mentally Handicapped; Exceptional Child Research; *Handicapped Children; Language Handicapped; Learning Disabilities; *Needs Assessment; Physically Handicapped; Secondary Education; *State Surveys; Visually Handicapped; Vocational Education
IDENTIFIERS Texas

ABSTRACT

Presented are findings from a 1977 statewide assessment of the career education performance of 1078 handicapped secondary students on a 45-item screening device. Statistical data are presented for five handicapping conditions (visually handicapped, orthopedically handicapped, auditorially handicapped, educable mentally retarded and language learning disabled) relative to the performance of nonhandicapped students on 26 subcategories, including goal setting, decision making, career information, job interview skills, use of money and resources, and worker interdependence. Other findings presented include highest and lowest performance by sub-category. Specific aspects (answer sheet, instructions, and test items) are discussed in terms of their appropriateness for use with special populations. The descriptions of the nine categories and 26 subcategories in the study are appended. (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED155871

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

TEXAS

Career Education Measurement Series

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

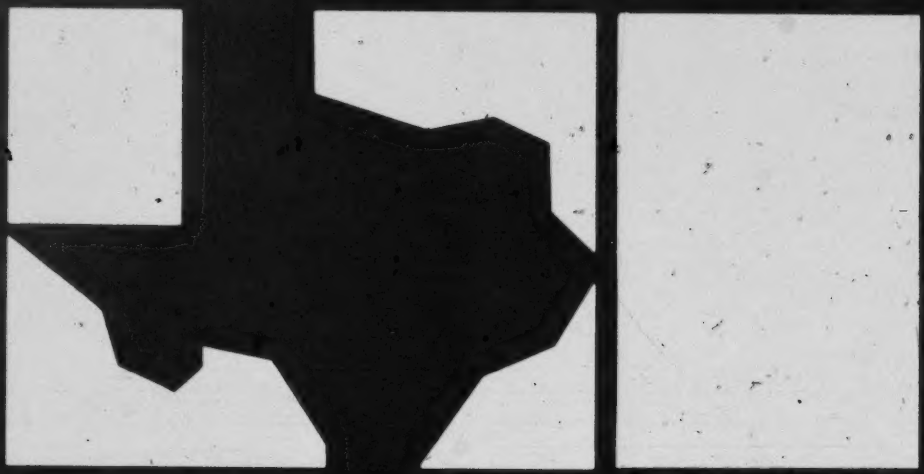
Linda Kemp

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

A HANDICAPPED STUDENT NEEDS ASSESSMENT

EC110772

2



A HANDICAPPED STUDENT NEEDS ASSESSMENT

CONTENTS:

Introduction 1

Background 2

The Measurement Instruments 4

Assessment Design 5

Sampling Design 7

Results 8

Evaluation 19

Implications 22

Appendix 25

Prepared by
PARTNERS IN CAREER EDUCATION
Arlington, Texas

In Cooperation with the
TEXAS EDUCATION AGENCY
Austin, Texas

COMPLIANCE WITH TITLE VI, CIVIL RIGHTS ACT OF 1964; TITLE IX OF THE EDUCATION AMENDMENTS OF 1972; AND THE MODIFIED COURT ORDER, CIVIL ACTION 5281, FEDERAL DISTRICT COURT, EASTERN DISTRICT OF TEXAS, TYLER DIVISION

Reviews of local education agencies pertaining to compliance with Title VI Civil Rights Act of 1964; Title IX of the Education Amendments of 1972; and with specific requirements of the Modified Court Order, Civil Action No. 5281, Federal District Court, Eastern District of Texas, Tyler Division are conducted periodically by staff representatives of the Texas Education Agency. These reviews cover at least the following policies and practices:

(1) acceptance policies on student tranfers from other school districts;

(2) operation of school bus routes or runs on a non-segregated basis;

(3) non-discrimination in extracurricular activities and the use of school facilities;

(4) non-discriminatory practices in the hiring, assigning, promoting, paying, demoting, reassigning or dismissing of faculty and staff members who work with children;

(5) enrollment and assignment of students without discrimination on the basis of race, color, national origin or sex;

(6) non-discriminatory practicas relating to the use of a student's first language; and

(7) evidence of published procedures for hearing complaints and grievances.

In addition to conducting reviews, the Texas Education Agency staff representatives check complaints of discrimination made by a citizen or citizens residing in a school district where it is alleged discriminatory practices have occurred or are occurring.

Where a violation of Title VI of the Civil Rights Act and/or Title IX of the Education Amendments of 1972 is found, the findings are reported to the Office for Civil Rights, Department of Health, Education and Welfare.

If there is a direct violation of the Court Order in Civil Action No. 5281 that cannot be cleared through negotiation, the sanctions required by the Court Order are applied.

INTRODUCTION

In 1977, the Texas Education Agency conducted a special assessment of handicapped students in career education. The purpose of this assessment was to determine how certain groups of handicapped students performed in relationship to the skills, knowledge and abilities that Texas citizens had proclaimed as essential for all students to possess.

This report describes the results and implications of this assessment. It is hoped that this information will be helpful to those educators responsible for the special needs of the handicapped.

BACKGROUND

In 1972, the State Board of Education selected career education as one of its top three priority areas. The Assessment of Career Education (ACE) Steering Committee was formed and given the responsibility for conducting a statewide assessment to determine student performance in career education. Since no clear statements of what skills, knowledge and abilities constituted career education were available, it was necessary to operationally define them before an assessment could be conducted.

The ACE Steering Committee in conjunction with Partners in Career Education, a project sponsored by the Dallas and Fort Worth school districts and the education service centers in Regions X and XI, conducted a statewide survey utilizing a cross-section of Texas citizens including students, parents, educators and representatives from business and industry. The purpose of the survey was to identify the skills, capabilities and attitudes considered basic for 17-year-old Texas students. A list of 279 possible student outcomes were organized into nine career education categories and published by the Texas Education Agency as *Basic Learner Outcomes for Career Education*. They provided the operational definitions for career education in Texas.

Once the definitions had been clarified, a search for an appropriate test instrument was undertaken. After examining the available tests, it was evident that no one test sufficiently measured the basic learner outcomes and that a new test had to be developed. Through the cooperative efforts of the Texas Education Agency, Westinghouse Learning Corporation and the Partners in Career Education project, the Career Education Measurement Series (CEMS) was developed.

In late 1975 and early 1976 a statewide assessment was conducted with 20,000 ninth grade and 6,600 twelfth grade students statewide using the survey test from CEMS. The results of the general assessment were reported in two documents—the *Report of the Assessment in Career Education* and *Texas Career Education Measurement Series: A Student Needs Assessment*. In addition to these reports, a series of workshops were held throughout the state for various groups interested in career education. As a result of this assessment effort, educators in the state had a picture of student achievement with respect to mastery of many of the behaviors and concepts which comprise career education.

During the spring of 1976, the Department of Special Education of the Texas Education Agency expressed interest in the results of the assessment. Specifically they were interested in how

certain special groups of handicapped students might perform on the CEMS survey. This interest was heightened by the fact that many of the special education programs throughout the state stressed the concepts of career and vocational education. Although the validation of the Career Education Measurement Series had not been conducted specifically on handicapped population, the behavior measured by CEMS was considered by Texas citizens as appropriate for all students.

Preparations began for a supplemental assessment in career education. It was recognized that certain modifications in administration of the CEMS survey test would be needed for some handicapped students. Since the performance of the handicapped was to be compared with that of the overall population, the decision was made not to modify the test. As a part of the assessment, however, attempts would be made to evaluate the appropriateness of the test for the handicapped student.

By February of 1977 the final preparations for the assessment were made and the selected education service centers and school districts were contacted. A series of pretest workshops were conducted by special education service center personnel for the purpose of training test administrators in the school districts. In April, 1977, 1078 special education students from five areas of handicapping conditions were tested using the survey test of the Career Education Measurement Series.

THE MEASUREMENT INSTRUMENTS

The Texas Career Education Measurement Series (CEMS) is a diagnostic measurement system designed to support instruction in career education. CEMS consists of 17 instruments, a survey test and 16 category tests, and is considered appropriate for use in grades 7 through 12. The series of measurement instruments are objective-based and can be used to determine students' progress toward mastery of the basic learner outcomes for career education.

The survey test, which is designed to serve as a screening device to generally diagnose probable areas of strengths and weaknesses of students' performance, was the principal measurement instrument used in the 1975-76 assessment of non-handicapped students. It also was the instrument used in the 1977 statewide assessment of handicapped students. The test consists of 45 items requiring two student responses. (The procedures used for selecting items are described in the *Development Report of the Texas Career Education Measurement Series.*)

The composition of CEMS measurement instruments represents a hierarchy that starts with test items at the first level. The test items are used to measure the basic learner outcomes which comprise the second level of the system. Outcomes include simple objective statements as well as statements of attitudes and behaviors.

The third level of the measurement system groups the 63 learner outcomes into 26 sub-categories. The learner outcomes included in each sub-category can be identified by common characteristics. The survey test contains items that are representative of the 26 sub-categories. The 16 category tests, designed for indepth diagnosis of students' abilities, consists of enough items to determine students' mastery or non-mastery of the 63 learner outcomes. Each category test is linked to one or more of the sub-categories.

At the most general level of the hierarchy are nine categories. Grouped under these goal-like category statements are the sub-categories, basic learner outcomes and items developed to measure the learner outcomes.

A complete list of the nine categories, 26 sub-categories and 177 basic learner outcomes in the measurement system are provided in the Appendix A, page 26.

ASSESSMENT DESIGN

Three specific research questions were formulated for the assessment of handicapped students in career education. These were:

- What was the performance of certain identifiable groups of students with varying degrees of physical and/or mental disabilities on the survey test?
- Was the performance of certain classifications of handicapped students comparable to that of the overall population?
- Was the survey test appropriate for use with certain classifications of handicapped students?

An assessment of the performance of five classifications of handicapped students was undertaken. These classifications were:

- Visually handicapped children who either had no vision or whose visual impairment after correction resulted in educational handicaps that required special assistance in order to realize educational achievement.
- Orthopedically handicapped children whose physical condition required special assistance in order to realize educational achievement.
- Auditorially handicapped children whose hearing was nonfunctional and required special assistance for the purpose of understanding normal communication needed to realize educational achievement.
- Educable mentally retarded children whose intellectual development and level of academic achievement was far below that of students of a similar age and developmental level.
- Language and/or learning disabled children who were considered deficient in the acquisition of language or learning skills in relation to a peer group but excluding educable mentally retarded children.

In order to provide comparable data with the 1976 statewide assessment it was necessary to select from among the five classifications of handicapped students those whose age or grade approximated that of the ninth and twelfth grade general populations. Available data taken from the *Annual Special Education Statistical Report* tended to indicate that as grade level increased, the number of identifiable individuals possessing the

desired characteristics decreased. In addition a large number of the target population was classified for instructional purposes as being "ungraded secondary" students. As a result some classifications of special education had populations with fewer than 200 individuals, and therefore a definite grade designation for these groups was undeterminable. In the general population the normal age levels for ninth grade would be 15 to 16 years of age. However, for special education populations it would be expected that the range for each grade level could be expanded by as much as two years. It was felt that the number of identifiable noninstitutionalized twelfth graders with the desired characteristics would be too small for comparative purposes and the decision was made to include only students equivalent to ninth grade in the study.

SAMPLING DESIGN

From reports submitted annually to the Texas Education Agency by school districts it was apparent that a variety of instructional arrangements existed within each of the handicapping conditions. This tends to suggest that the severity of the handicap varied greatly within each group. Fewer than 60 visually handicapped and 200 auditorially handicapped students were identified statewide at the 9th grade level. These factors prohibited the use of a multi-stage sampling design. Even more heterogeneity existed among the five handicapping conditions requiring an inductive sampling approach. Each classification of handicapping conditions as a simple random sample and no generalizations to special education as a whole was to be attempted.

The sample size of each group was determined using proportional formulas. Figure 1 shows each handicapping condition, the number of students to be selected, the number actually tested and the total populations from which selections could be made.

Figure 1
SAMPLE SIZES
FOR VARYING POPULATION CHARACTERISTICS

Population Characteristic	Estimated Sample Size	Number of Individuals Tested	Estimated Population Incidence
Visually Handicapped	48	48	78
Orthopedically Handicapped	273	127	1000
Auditorially Handicapped	111	195	957
Educable Mentally Retarded	302	315	3656
Language Learning Disabled	365	393	7059

Selected regional education service centers served as the primary sampling units. Figure 2 displays the selected regions and the numbers of students tested by handicapping condition.

Figure 2
PARTICIPATION BY REGION AND HANDICAPPING CONDITION

Education Service Center Region	VH	OH	AH	EMR	LLD
II	2	15	4	17	34
IV		13	30	19	26
V	7	16	2	28	38
VII	5	18	5	26	29
VIII	10			43	22
IX	1	2		37	51
X		10		48	47
XIII		9		24	65
XIX		4	3	40	41
XX	6	40	16	33	40
School for the Deaf			135		
School for the Blind	17				
TOTALS	48	127	195	315	393

RESULTS

Statewide Student Performance

Student performance was reported for each of the twenty-six sub-categories measured by the survey test by handicapping condition. The statewide results for each of the handicapping conditions are also compared with the test results of 20,073 ninth graders in the general statewide assessment.

The following points should be considered when interpreting the data presented in Figures 3 through 7:

(1) Student performance on the survey test is reported at the sub-category level. Each sub-category contains specific basic learner outcomes which are identified by common characteristics. Appendix A, page 26, lists all the nine categories, 26 sub-categories and basic learner outcomes in the measurement system.

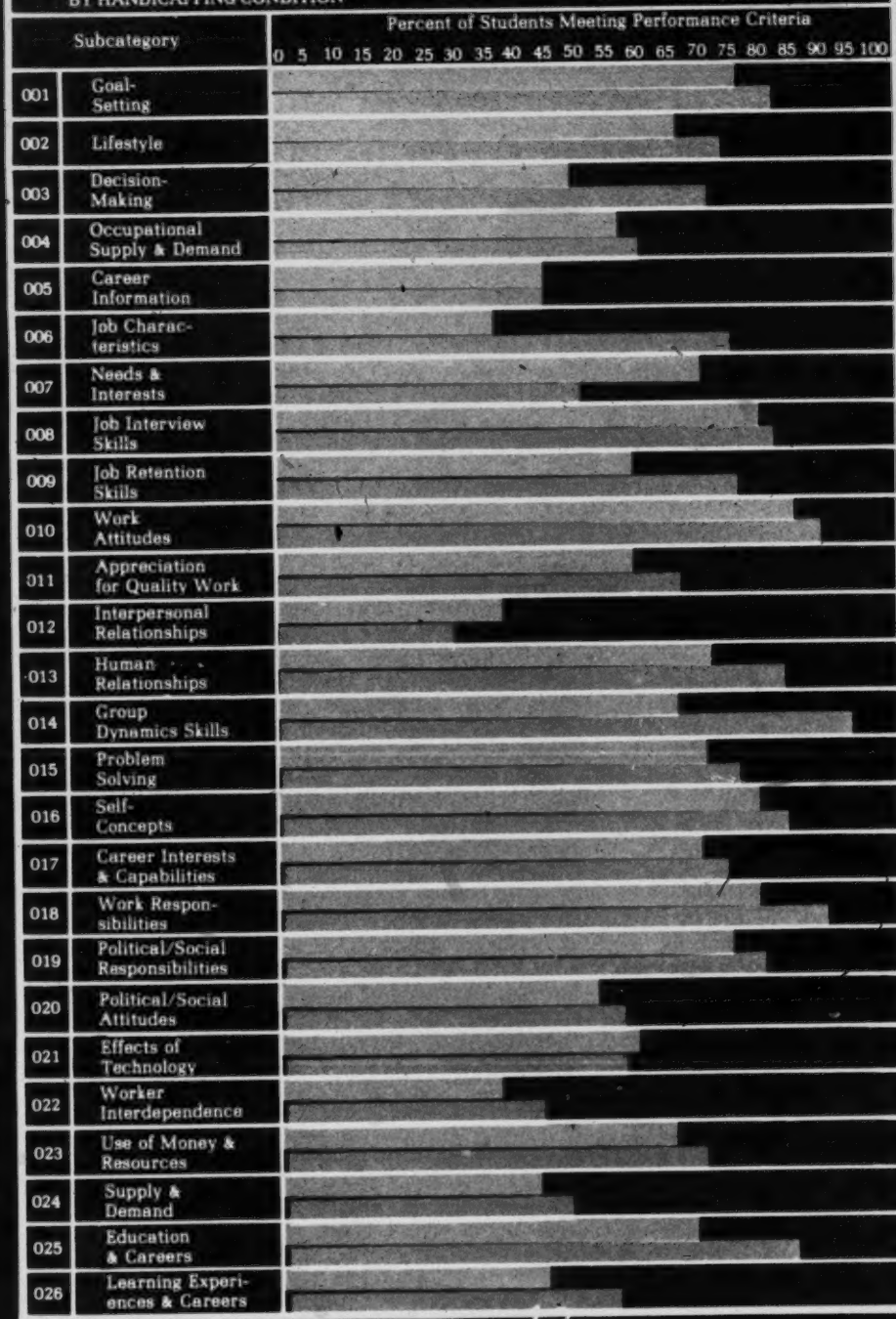
(2) The survey test consists of 45 items which measure selected basic learner outcomes.

(3) The student is required to make 52 separate responses on the survey test. Each of the 26 sub-categories is measured by up to three responses.

STATEWIDE STUDENT PERFORMANCE BY HANDICAPPING CONDITION

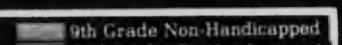
Figure 3

9th Grade Non-Handicapped
Visually Handicapped


Subcategory
Percent of Students Meeting Performance Criteria
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
001 Goal-Setting
002 Lifestyle
003 Decision-Making
004 Occupational Supply & Demand
005 Career Information
006 Job Characteristics
007 Needs & Interests
008 Job Interview Skills
009 Job Retention Skills
010 Work Attitudes
011 Appreciation for Quality Work
012 Interpersonal Relationships
013 Human Relationships
014 Group Dynamics Skills
015 Problem Solving
016 Self-Concepts
017 Career Interests & Capabilities
018 Work Responsibilities
019 Political/Social Responsibilities
020 Political/Social Attitudes
021 Effects of Technology
022 Worker Interdependence
023 Use of Money & Resources
024 Supply & Demand
025 Education & Careers
026 Learning Experiences & Careers

STATEWIDE STUDENT PERFORMANCE BY HANDICAPPING CONDITION

Figure 4

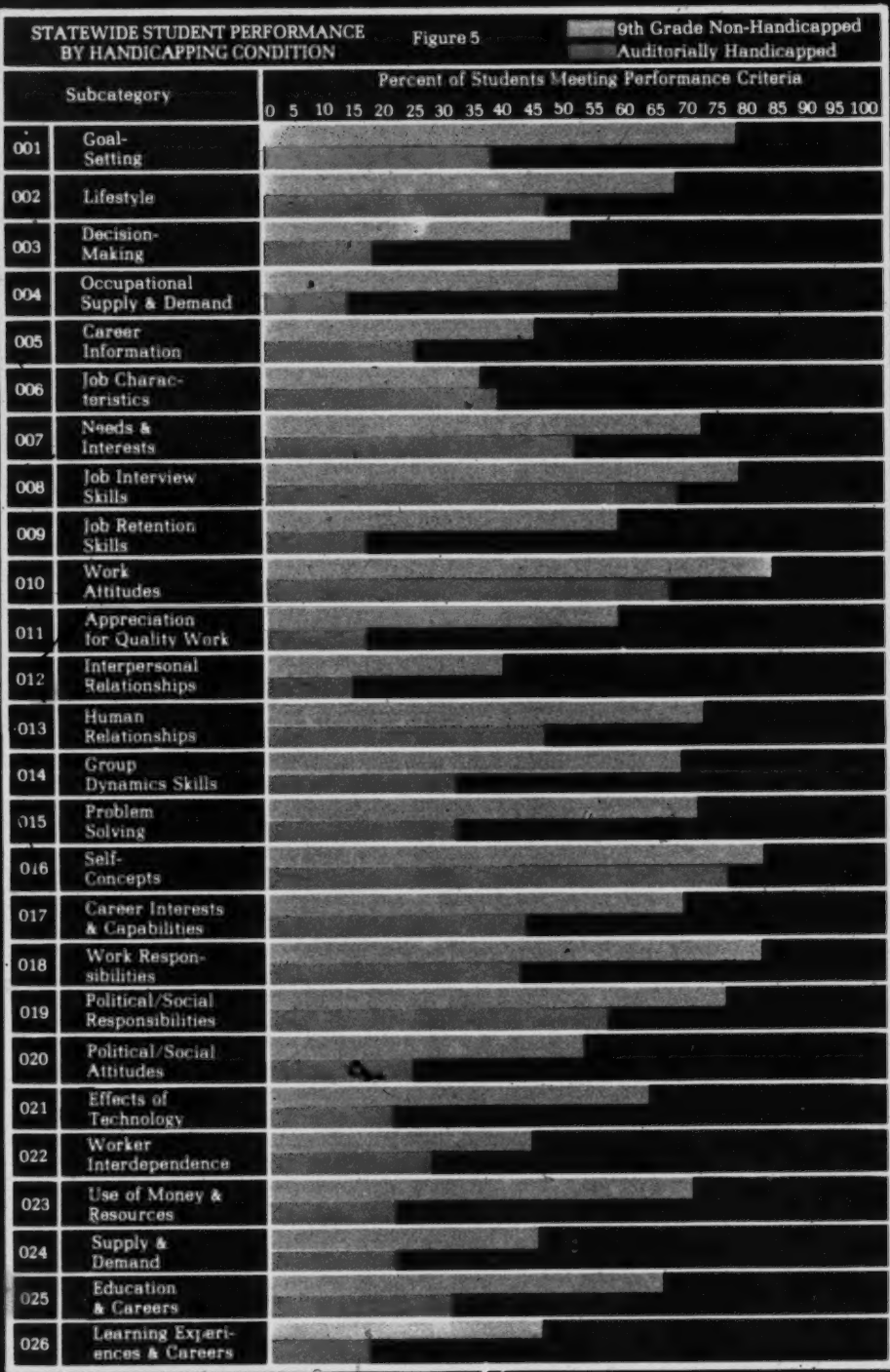


	Subcategory	Percent of Students Meeting Performance Criteria (0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100)
001	Goal-Setting	
002	Lifestyle	
003	Decision-Making	
004	Occupational Supply & Demand	
005	Career Information	
006	Job Characteristics	
007	Needs & Interests	
008	Job Interview Skills	
009	Job Retention Skills	
010	Work Attitudes	
011	Appreciation for Quality Work	
012	Interpersonal Relationships	
013	Human Relationships	
014	Group Dynamics Skills	
015	Problem Solving	
016	Self-Concepts	
017	Career Interests & Capabilities	
018	Work Responsibilities	
019	Political/Social Responsibilities	
020	Political/Social Attitudes	
021	Effects of Technology	
022	Worker Interdependence	
023	Use of Money & Resources	
024	Supply & Demand	
025	Education & Careers	
026	Learning Experiences & Careers	

STATEWIDE STUDENT PERFORMANCE BY HANDICAPPING CONDITION

Figure 5

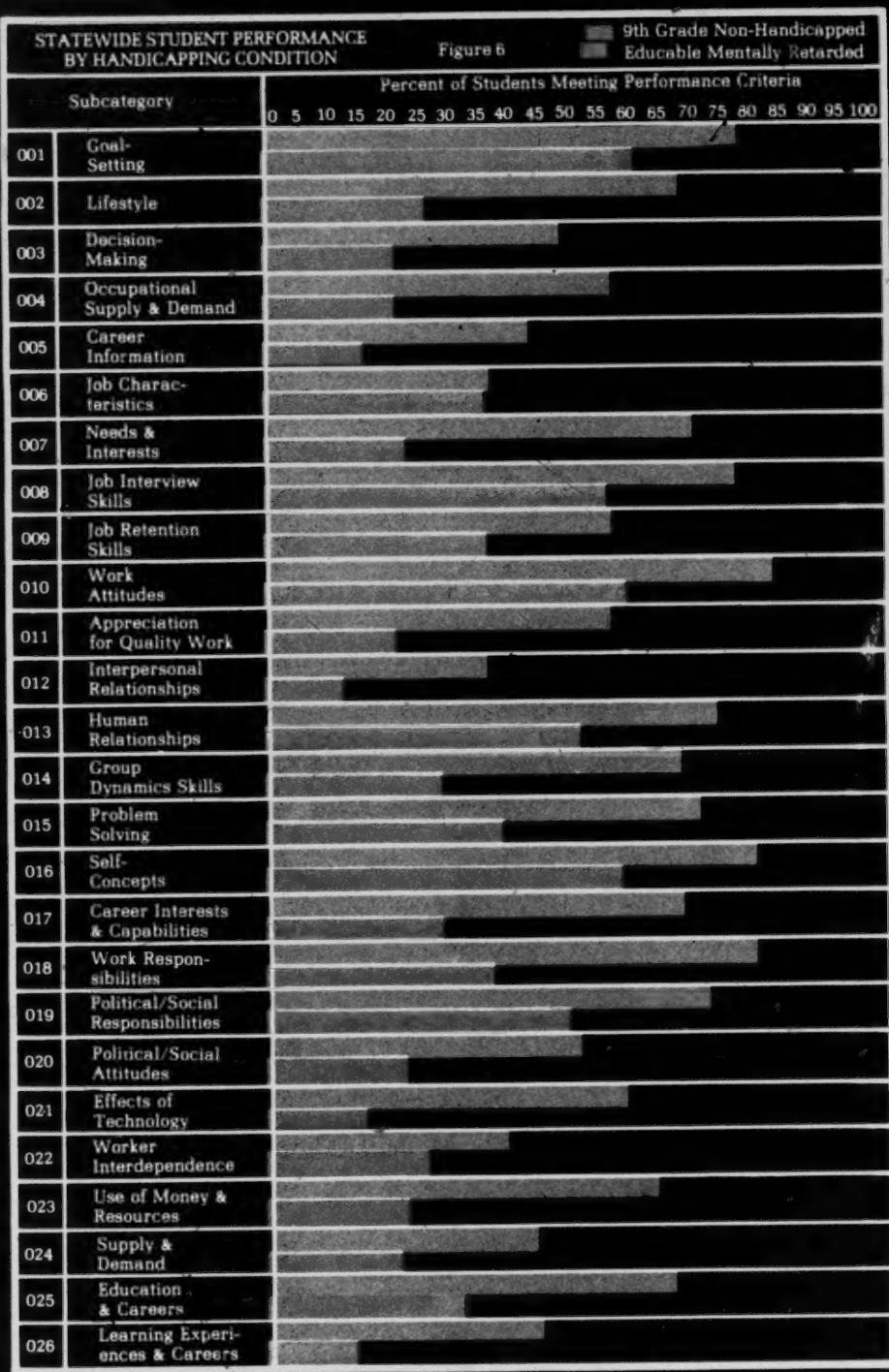
9th Grade Non-Handicapped
Auditorially Handicapped


Subcategory
Percent of Students Meeting Performance Criteria
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
001 Goal-Setting
002 Lifestyle
003 Decision-Making
004 Occupational Supply & Demand
005 Career Information
006 Job Characteristics
007 Needs & Interests
008 Job Interview Skills
009 Job Retention Skills
010 Work Attitudes
011 Appreciation for Quality Work
012 Interpersonal Relationships
013 Human Relationships
014 Group Dynamics Skills
015 Problem Solving
016 Self-Concepts
017 Career Interests & Capabilities
018 Work Responsibilities
019 Political/Social Responsibilities
020 Political/Social Attitudes
021 Effects of Technology
022 Worker Interdependence
023 Use of Money & Resources
024 Supply & Demand
025 Education & Careers
026 Learning Experiences & Careers

STATEWIDE STUDENT PERFORMANCE BY HANDICAPPING CONDITION

Figure 6

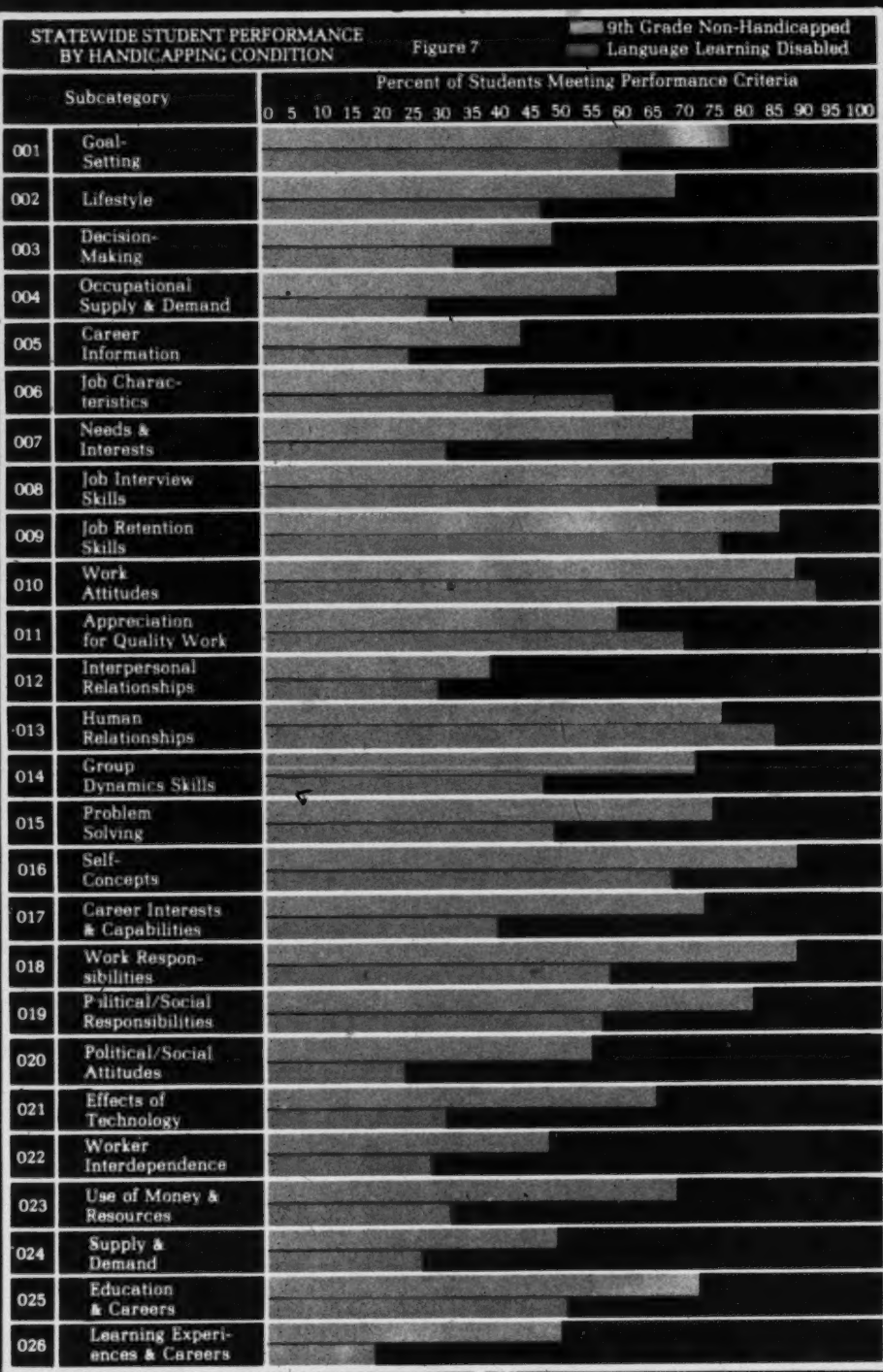
9th Grade Non-Handicapped
Educable Mentally Retarded


Subcategory
Percent of Students Meeting Performance Criteria
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
001 Goal-Setting
002 Lifestyle
003 Decision-Making
004 Occupational Supply & Demand
005 Career Information
006 Job Characteristics
007 Needs & Interests
008 Job Interview Skills
009 Job Retention Skills
010 Work Attitudes
011 Appreciation for Quality Work
012 Interpersonal Relationships
013 Human Relationships
014 Group Dynamics Skills
015 Problem Solving
016 Self-Concepts
017 Career Interests & Capabilities
018 Work Responsibilities
019 Political/Social Responsibilities
020 Political/Social Attitudes
021 Effects of Technology
022 Worker Interdependence
023 Use of Money & Resources
024 Supply & Demand
025 Education & Careers
026 Learning Experiences & Careers

STATEWIDE STUDENT PERFORMANCE BY HANDICAPPING CONDITION

Figure 7

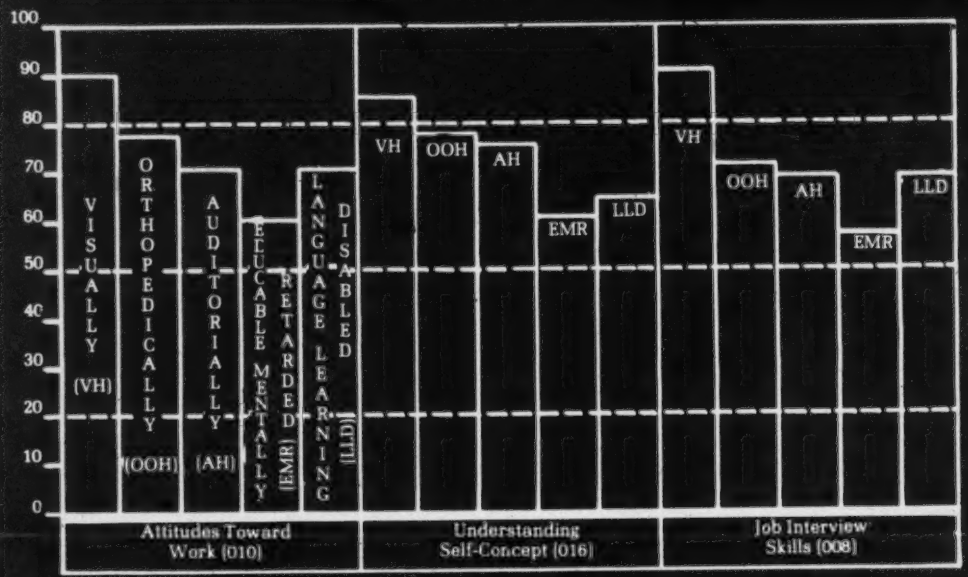
9th Grade Non-Handicapped
Language Learning Disabled


Subcategory
Percent of Students Meeting Performance Criteria
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
001 Goal-Setting
002 Lifestyle
003 Decision-Making
004 Occupational Supply & Demand
005 Career Information
006 Job Characteristics
007 Needs & Interests
008 Job Interview Skills
009 Job Retention Skills
010 Work Attitudes
011 Appreciation for Quality Work
012 Interpersonal Relationships
013 Human Relationships
014 Group Dynamics Skills
015 Problem Solving
016 Self-Concepts
017 Career Interests & Capabilities
018 Work Responsibilities
019 Political/Social Responsibilities
020 Political/Social Attitudes
021 Effects of Technology
022 Worker Interdependence
023 Use of Money & Resources
024 Supply & Demand
025 Education & Careers
026 Learning Experiences & Careers

Performance By Sub-Category

In studying the results of each hardicapping condition, trends in performance can be observed. The three sub-categories of highest performance are presented in order in Figure 8 below.

Figure 8
Sub-Categories of Highest Performance for Handicapped Population



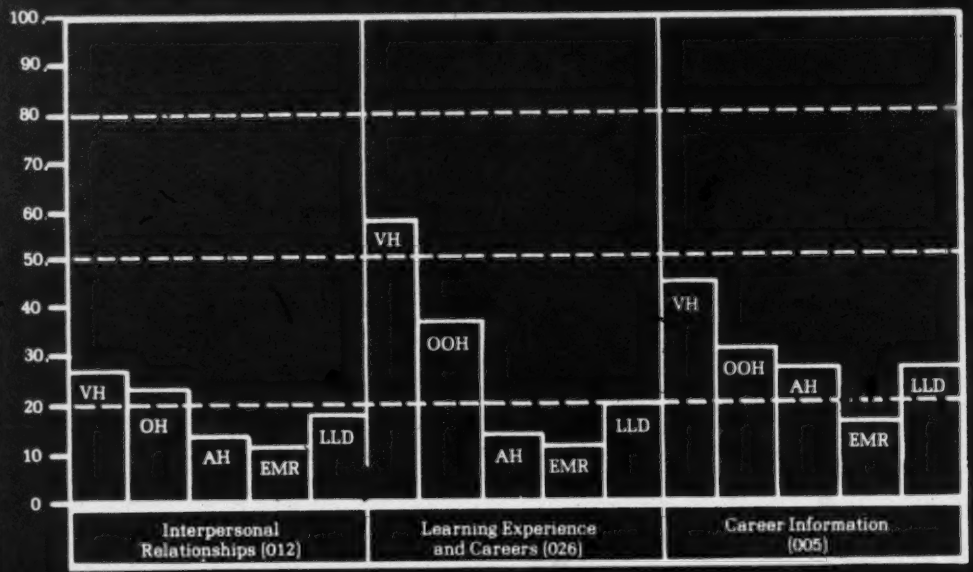
The sub-categories of highest performance which differed for each of the handicapping conditions is illustrated below:

Figure 9

Handicapping Condition	Category	% Mastery	Category	% Mastery	Category	% Mastery
Visually	014	94	018	92	010	90
Orthopedically	010	78	008	72	001	70
Auditorially	016	73	010	72	008	69
EMR	001	61	010	60	016	60
LLD	010	72	008	67	016	66

The three sub-categories of lowest performance are presented in order in Figure 10 below.

Figure 10
Sub-Categories of Lowest Performance
for Handicapped Population



The sub-categories of lowest performance for each of the handicapping conditions are as follows:

Figure 11

Handicapping Condition	Category	% Mastery	Category	% Mastery	Category	% Mastery
Visually	012	27	005	44	022	44
Orthopedically	012	24	005	31	003	31
Auditorially	012	13	004	13	026	15
EMR	012	11	026	13	005	17
LLD	012	17	026	20	005	25

Performance in Comparison to Ninth Grade Non-Handicapped Population

Examination of student data obtained from the statewide needs assessment as reported in the booklet, *Texas Career Education Measurement Series: A Student Needs Assessment*, shows that priority attention should be given to those sub-categories in which less than 75 percent of the students displayed attainment.

The visually handicapped students obtained higher scores in 21 of the 26 sub-categories than were obtained by the ninth grade, non-handicapped students. Thus, the visually handicapped students demonstrated higher levels of mastery than the non-handicapped students. The visually handicapped excelled particularly in sub-category 006 with 75 percent mastery in comparison to 35 percent mastery by the non-handicapped ninth grade population for the same sub-category.

At least 75 percent of the ninth grade equivalent visually handicapped students met the performance criterion for 13 of the 26 sub-categories in comparison to seven of the 26 sub-categories mastered by the non-handicapped ninth grade population. These 13 sub-categories were:

001 Goal Setting
002 Lifestyle
006 Job Characteristics
008 Job Location and Interview Skills
009 Job Retention Skills
010 Attitudes Toward Work
013 Human Relationship Skills
014 Group Dynamics Skills
015 Personal Adjustment and Problem Solving
016 Understanding Self-Concept
018 Responsibilities Within the Work Environment
019 Political/Social Responsibilities
025 Education & Careers

The orthopedically handicapped and other health impaired students met the performance criterion of at least 75 percent mastery in two of the 26 sub-categories as follows:

010 Attitudes Toward Work
016 Understanding Self-Concept

Students in the other three categories of handicapping conditions —auditory, educable mentally retarded and language learning disabled—did not meet the 75 percent performance criterion for any of the 26 sub-categories.

The range of differences in student performance between the five handicapping conditions is easily discernible. The performance of the visually handicapped students met and exceeded the performance of the ninth grade non-handicapped population as well as the performance of the students in the other four categories of handicapping conditions.

The orthopedically and other health impaired students came close to, but fell below, the performance levels of the ninth grade non-handicapped population in all sub-categories except one, 006—Job Characteristics. The largest differences in performance by sub-category occurred among the auditorially handicapped, educable mentally retarded and language learning disabled in comparison to the performance of the visually handicapped student and the ninth grade non-handicapped students.

General Findings

Student performance has been reported at the sub-category level. These 26 sub-categories are grouped under nine general categories of career education. In considering the overall performance of Texas students at the category level, Figure 12 shows how ninth grade non-handicapped and handicapped students performed in relation to these categories. The categories are ranked from highest performance (rank 1) to lowest performance (rank 9) according to the percentage of students that met the performance criterion for the sub-categories within each category.

Figure 12
Basic Learner Outcome Category Performance

Basic Learner Outcome Category	Non-Handicapped	Handicapped				
	Ninth Grade	VH	OOH	AH	EMR	LLD
1. Career Planning and Decision Making	5	4	5	5	5	4
2. Career and Occupational Information	9	8	8	6	7	8
3. Job Acquisition and Retention Skills	4	1	3	3	2	1
4. Attitudes and Appreciation for Career Success	2	2	2	2	3	2
5. Skills in Human Relationships for Careers	6	7	6	7	6	6
6. Self-Investigation and Evaluation for Career Success	1	3	1	1	1	3
7. Personal/Work/Societal Responsibilities	3	5	4	4	4	5
8. Economic Factors Influencing Career Opportunities	8	9	9	9	9	7
9. Education/Career Opportunity Relationships	7	6	7	8	8	9

A close examination of Figure 12 indicates that the patterns of performance are remarkable similar between the overall ninth grade population and the students in each of the handicapping conditions tested. The priority need areas for all handicapped students, except the language learning disabled, was Category 8, "Economic Factors Influencing Career Opportunity." This category was followed closely by Category 2, "Career and Occupational Information", which was the number one priority need area of the overall population. Conversely, the area of highest performance for the overall population was Category 6, "Self-Investigation and Evaluation for Career Success", and this category was also the area of highest performance for three of the five handicapping conditions tested and among the top three areas for all five groups. Even though the performance of the handicapped in many cases was far below that of the overall population, the trends in performance are quite close.

EVALUATION

One of the prime questions considered by this study was the appropriateness of the survey test for use with special populations. Since the survey test was administered in the same form as the one used in the general assessment, it was expected that some modification of the test was in order. Questionnaires were sent to test administrators requesting that they document problems encountered during testing. Specifically, three major areas of the test were investigated—the Answer Sheet, Directions/Instructions and Test Items.

Answer Sheet

The answer sheet used in the *Texas Career Education Measurement Series* is a customized sheet designed for use on an MRC scanner. The sheet requires the examinee to record his responses by filling in a number of small oval grids located both horizontally and vertically on the page. The answer grids for the 45 test items are contained in two vertical columns, while the demographic information which includes name, grade, sex and ethnicity are located along the side of the answer sheet in several boxes with accompanying grids.

The respondents to the questionnaire indicated that all 5 classifications of handicapped students had at least some difficulty completing the answer sheet. The major problem cited was the small ovals used for recording responses. In addition to the visually handicapped, who usually had their answers recorded by the administrator, the language learning disabled, orthopedially handicapped and the educable mentally retarded student with spatial coordination problems experienced difficulty with the sheets. The two most commonly cited problems were the students' inability to confine marks to a single oval and the tendency to mark answer in the response grid above or below the appropriate grid. In addition, a majority of the examinees in all classifications were unable to complete the demographic information without special assistance. The reason most often cited for the difficulty was the terminology used for the ethnic descriptors.

Directions/Instructions

In addition to a general set of instructions for the overall test, each item contained a unique set of directions or instructions. The directions to a given test item reflected one of two basic formats: either choosing a response from among four alternatives of indicating agreement or disagreement with a given statement. In the majority of items both the situation or problem to which the student was to respond and the direction for marking the answer were contained in the same statement.

The respondents to the questionnaire indicated that all five groups encountered some difficulty with both the vocabulary of the directions and the passage length of the statements. Some of the instructions to attitudinal questions such as selecting the "best" or "least" correct response caused some difficulty for students. In addition, questions requiring a student to determine the incorrect answer or the answer that was different from other alternatives was cited as a problem for EMRs and LLDs. The most prominent suggestions for improving the directions were to shorten as much as possible the length of reading passages and to use parallel directions throughout the test.

Test Items

Thirty-eight of the forty-five test items on the survey test were multiple choice questions. The remaining questions asked students to respond either negatively or positively to a given situation. Reading lists and reading indices were originally used to control vocabulary levels in the test. There are, however, instances where the reading level exceeded the intended sixth to eighth grade levels. The difficulty level of the vocabulary tended to be higher in the areas of economics and attitudes or behaviors which utilize more technical vocabulary than the other portions of the test.

The respondents indicated that all of the groups tested had trouble with some vocabulary used in the test. Listed below are the vocabulary words most often identified as causes of student difficulty.

VH	OH	EMR
Clergymen	Personally satisfying	Environment
Discrimination	Discriminate	Appropriate
Interacting	Compromise	Discrimination
Environment	Environment	Technology
	Culture	Compromise
	Technology	Job satisfaction
	Experimental	Prejudice

LLD	AH
Environment	Environment
Misconception	Resources
Adjustment	Technology
Relationship	Classified
Compromise	Experimental
Scarcity	
Factors	

It should be noted that the some of the vocabulary listed above was also cited by test administrators during the general assessment as being difficult for certain students. However, an inspection of the vocabulary identified indicates that students in the special assessment appeared to have more difficulty as the abstraction level of the vocabulary increased.

The general perception of some of the respondents was that the overall difficulty level of the test was too high to be useful for measuring the performance of special populations with respect to career education. Thus, some of the administrators predicted that performance on the test would be too low to provide any useful information in career education. This observation was primarily expressed by those who had administered tests to the educable mentally retarded and the language learning disabled student. The conclusions reached by the administrators were that:

(1) the concepts measured by the test were beyond the realm of experience and the intellectual capability of some handicapped students; and

(2) the vocabulary exceeded the reading level of the examinees as a whole.

IMPLICATIONS

As a result of conducting the assessment and analyzing the test results and evaluative comments, there are several implications to be considered by educators involved in educational planning and assessment for special education populations:

Prime Question 1:

What was the performance of certain groups of students with varying degrees of physical and/or mental disabilities on the survey test?

The results indicate that in certain sub-categories the performance of some groups, particularly the educable mentally retarded and the language learning disabled, is quite low. However, caution should be exercised when attempting to offer explanations for such performance. The reliability of a performance measure becomes questionable as the performance level approaches zero. In extreme cases, the performance indicator may fall below the "chance" or "guess" level. There are two possible explanations for this occurrence:

(1) The measure of the behavior may be inappropriate for determining a group's true ability. Inappropriateness itself may be a function of the vocabulary used in the test, the cultural experience of the examinees, or the response mode of the test.

(2) There is on the other hand the possibility that the behavior itself may not have been addressed in a learning situation, in which case, the performance indicator may be quite accurate.

In this study it would be reasonable to assume that both factors are at work and the true performance level of some groups may not be accurate. However, since the performance trend of the handicapped are so similar to those of the overall population it is suggested that those responsible for the educational needs of the special student should infuse the appropriate areas of career education into the academic curriculum of the handicapped.

Prime Question 2:

Was the performance of certain classifications of handicapped students comparable to that of the overall population?

According to the results, only the visually handicapped demonstrated a performance comparable to the ninth grade non-handicapped population. In fact, this performance in many

instances exceeded that of the overall population. For the other four handicapping conditions performance differences ranges from one to more than fifty percent below that of the general population.

Prime Question 3:

Was the survey test appropriate for use with certain classifications of handicapped students?

- There is an indication that tests administered on a one-to-one basis yield higher mastery scores than tests administered in a group situation.
- From the test results and evaluation statements provided by test administrators it can be concluded that the survey test is more appropriate for the visually handicapped and orthopedically and other health impaired students than for those with mental or intellectual handicaps.
- Based upon the evaluation data provided by the test administrators there are implications that a further study needs to be considered and that subsequent modification of test instruments may be most appropriate for the educable mentally retarded and language learning disabled populations.Specifically the vocabulary should be modified to test for career education concepts at a lower reading level.

APPENDIX

Appendix A
Components of CEMS

Category 1—Career Planning and Decision Making

Sub-Category Number & Title	Outcome Number and Outcome Based Objective
001 Goal Setting	1:03 The student should be able to identify factors that contribute to personal job satisfaction. 1:04 The student should be able to determine the importance of matching personal goals with a career choice.
002 Lifestyle	1:12 The student should be able to identify factors which influence a person's lifestyle.
003 Assistance in Decision Making	1:02 The student should be able to apply a decision-making process to solving problems related to career choice. 1:07 The student should be able to use his/her own resourcefulness to solve career - related problems.

Category 2—Career and Occupational Information

Sub-Category Number & Title	Outcome Number and Outcome Based Objective
004 Occupational Supply and Demand	2:02 The student should be able to investigate the supply and demand for a particular occupation prior to making a career choice.
005 Career Information	2:01 The student should be able to identify the benefits derived from talking with qualified people working in areas of interest to him/her. 2:05 The student should be able to locate and use appropriate sources of information that will aid a person in making a career choice.
006 Job Characteristics	2:10 The student should be able to identify various jobs that require the same skills.
007 Job Characteristics and Individual Needs and Interests	2:07 The student should be able to match his/her individual needs and interests with his/her career choice.

Category 3—Job Acquisition and Retention

Sub-Category Number & Title	Outcome Number and Outcome Based Objective
008 Job Location and Interview Skills	3:01 The student should be able to identify the various parts of a job application form and select from several samples the one form which has been properly completed. 3:02 The student should be able to distinguish between appropriate and inappropriate interview behaviors.
009 Job Retention Skills and Understandings	3:07 The student should be able to give examples of ways to improve one's chances for personal job success.

Category 4—Attitudes and Appreciation for Career Success

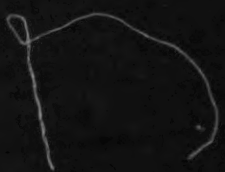
Sub-Category Number & Title	Outcome Number and Outcome Based Objective
010 Attitudes Toward Work	4:03 The student should be able to give examples of individual attitudes toward work and identify factors that influence a person's attitude toward work. 4:05 The student should be able to indicate the advantages of completing a task. 4:07 The student should be able to identify examples of personal satisfaction through one's own accomplishments and recognize that satisfaction may or may not be the same for all individuals. 4:21 The student should be able to demonstrate, as an employee, compliance with reasonable decisions made by other persons with legitimate authority.
011 Appreciation for Quality Work	4:01 The student should be able to detect quality work in relation to a task or job and indicate the advantages of quality work performance. 4:08 The student should be able to give examples of an individual taking pride in his/her work and work products.

Category 5—Skills in Human Relationships for Careers

Sub-Category Number & Title	Outcome Number and Outcome Based Objective
012 Interpersonal Relationships Skills	5:06 The student should be able to identify examples of a person exhibiting "good" manners on the job or in social settings and indicate the importance of doing so. 5:16 The student should be able to indicate the benefits of and necessity for being sensitive toward others. 5:18 The student should be able to recognize instances in his/her life when he/she will have to make compromises.
013 Human Relationships Skills	5:10 The student should be able to recognize the consequences of prejudice among different races or ethnic groups as it affects the behavior of individuals. 5:11 The student should be able to identify factors which contribute to prejudice.
014 Group Dynamics Skills	5:04 The student should be able to identify ways a person can effectively interact with other people as a team member. 5:09 The student should be able to identify examples of respectful behavior among people of different races or ethnic origins and indicate the results of such behavior. 5:12 The student should be able to identify the advantages and disadvantages of being a leader and/or follower. 5:22 The student should be able to identify the most effective means of communication for different situations. 5:24 The student should be able to indicate the benefits of communicating, projecting thoughts, and/or expressing one's feelings.

Category 6—Self-Investigation and Evaluation for Career Success

Sub-Category Number & Title	Outcome Number and Outcome Based Objective
015 Personal Adjustment and Problem Solving	6:01 The student should be aware of and should be able to select the appropriate assistance from school, public, and/or private counselors on problems about school, home, career choice, career requirements, lifestyles and/or getting along with other people. 6:16 The student should be able to indicate situations in which a person might be required to make adjustments.
016 Understanding Self-Concept	6:05 The student should be able to determine the importance of recognizing personal faults or limitations. 6:10 The student should be able to recognize ways a person's self-concept influences his/her ability to succeed.
017 Career Interests and Capabilities	6:04 The student should be able to identify factors which will influence a person's career options such as personal characteristics, training requirements, finances and parental attitudes.



Category 7—Personal/Work/Societal Responsibilities

Sub-Category Number & Title	Outcome Number and Outcome Based Objective
018 Responsibilities Within the Work Environment	7:02 The student should be able to identify appropriate behavior for working with or without supervision and for working independently or with others. 7:11 The student should be able to identify responsibilities which one would have to oneself and to fellow workers when performing a task or job. 7:20 The student should be able to identify good safety habits which would be applicable on the job and at home. 7:21 The student should be able to indicate the benefits of caring for and conserving the use of equipment and materials on the job. 7:23 The student should be able to indicate reasons for maintaining good health in relation to job performance.
019 Responsibilities and Rights Derived from Political/Societal Environment	7:04 The student should be able to identify the consequences of a person not working. 7:05 The student should be able to identify rights that are granted to us by out social and political institutions including matters such as property ownership and freedom of speech. 7:07 The student should be able to identify ways our society is responsible for supporting certain individuals such as orphans and the aged. 7:08 The student should be able to identify services such as education, police protection and highway maintenance that are provided by city, county,state and/or federal governments and paid for with tax money.
020 Developing Positive Attitudes and Behaviors for Participation in the Political/Societal Environment	7:13 The student should be able to indicate situations which reflect a positive attitude or respect toward the United States and participation in the American political and economic systems. 7:16 The student should be able to conclude that participation in the political process can make the system more responsive to its populace. 7:22 The student should be able to identify ways to conserve and reasons for conserving environmental and human resources.

Category 8—Economic Factors Influencing Career Opportunity

Sub-Category Number & Title	Outcome Number and Outcome Based Objective
021 Effects of Technology	8:02 The student should be able to identify ways technology can affect a person's work and lifestyle. 8:04 The student should be able to identify situations in which technology necessitates retraining of the labor force.
022 Job Specialization and Worker Interdependence	8:31 The student should be able to identify the results of dependence on other people, businesses and communities for our basic needs.
023 Use of Money and Resources	8:08 The student should be able to define interest and indicate why it is a necessary charge for using other people's money. 8:10 The student should be able to determine that the wages a person receives may be dependent upon one's time and effort. 8:11 The student should be able to distinguish between gross income, net income and income taxes. 8:20 The student should be able to recognize that some decisions a person makes may require giving up doing or buying something else with one's time or money. 8:21 The student should be able to interpret a household budget involving income and expenditures.
024 Supply and Demand	8:13 The student should be able to indicate the relationship among resources, goods and services. 8:17 The student should be able to identify factors that affect the supply and demand of items or services. 8:26 The student should be able to indicate the effects of scarcity of resources. 8:27 The student should be able to identify the effects of consumer influence on the kinds and numbers of goods and services that are produced.

Category 9—Education/Career Opportunity Relationships

Sub-Category Number & Title	Outcome Number and Outcome Based Objectives
025 Relationships of Education (formal or informal) to Career Opportunity	9:01 The student should be able to give examples of how the understandings of specific knowledge is a means of achieving a particular career goal. 9:04 The student should be able to identify courses which are available in school that offer specialized training programs for full-time employment.
026 Relationships of Learning Experiences (in school or out) to Career Opportunity	9:02 The student should be able to identify learning experiences in school which will improve his/her ability to follow a particular career direction or enable him/her to make necessary career adjustments. 9:09 The student should be able to indicate reasons for asking questions when he/she needs information. 9:15 The student should be able to determine that by listening and reading a person can be exposed to and/or absorb the thoughts and knowledge of others.